

Comparison of endothelial keratoplasty techniques in patients with prior glaucoma surgery - a case-matched study.

Journal:	Am J Ophthalmol
Publication Year:	2019
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PubMed link:	30935848
Funding Grants:	Regeneration of Functional Human Corneal Epithelial Progenitor Cells

Public Summary:

PURPOSE: To evaluate the outcomes of Descemet membrane endothelial keratoplasty (DMEK) and Descemet's stripping endothelial keratoplasty (DSEK) in eyes with prior glaucoma surgery. **Design:** Case-matched retrospective comparative case series. **METHODS:** Setting / Study Population: Forty-six DMEK procedures were matched with 46 DSEK procedures at a single institution. **OBSERVATION PROCEDURES:** Cases were matched based on preoperative visual acuity, lens status and surgical indication. **MAIN OUTCOME MEASURES:** The outcome measures included visual acuity improvement, primary and secondary graft failure, endothelial rejection, intraocular pressure (IOP) elevation, and the need for additional glaucoma intervention. **RESULTS:** Best-corrected visual acuity (BCVA) improved by -0.89 LogMar in the DMEK group and -0.62 LogMar in the DSEK group ($p=0.005$) at one year follow up. Visual acuity was significantly better in the DMEK group at post-operative months 1, 3, 12, and at last follow up. The percentage of patients achieving 20/40 or better BCVA was higher in the DMEK group at all time points, notably 47% in the DMEK group vs 15% in the DSEK group at 1 year ($p=0.002$). Secondary graft failure was lower in the DMEK group (DMEK 0% vs DSEK 17%, $p=0.006$). Primary graft failure rate and air injection rate were similar. There were no differences in the rate of post-operative IOP elevation or in the need for additional glaucoma intervention. **CONCLUSIONS:** In complex eyes with prior glaucoma surgery, DMEK offers faster visual recovery, better final visual acuity, and a lower rate of secondary graft failure compared with DSEK during the first postoperative year and beyond.

Scientific Abstract:

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